CIAQ
Federal Interagency
Committee on Indoor Air Quality

The next CIAQ Webinar/meeting will be held on **Wednesday, June 4th 2014**
www.epa.gov/iaq/ciaq
CIAQ@epa.gov

Webinar/meeting Attendance

Webinar/meeting duration: 146 minutes (1:00-3:26 PM)
Webinar registrations: 356 persons
Teleconference participants: 150 persons
Teleconference operator: Shelon Jackson
Total attendance: 163 persons
Webinar attendance: 136 persons
In-person participants (room): 13 persons
Moderator: Phil Jalbert

~ A G E N D A ~

1:05 Welcome, introductions and announcements, *Phil Jalbert*

Healthy Purchasing for Healthy Schools Guide, *Claire Barnett (Founder & Executive Director, Healthy Schools Network)*
Q&A

Updates on IAQ & IEQ activities from Federal CIAQ Member Agencies
1-NIST, National Institute of Standards and Technology, *Dr Andy Persily*

2-NIOSH, National Institute of Occupational Health and Safety, *Dr Michelle Martin*

3-CPSC, Consumer Product Safety Commission, *Joanna Matheson*
Q&A on Agency Updates

4-HUD, Department of Housing and Urban Development
Healthy Housing and Lead Hazard Control, *Dr Peter Ashley*

5-DOE, Department of Energy, Building Technologies Program, *Chris Early*
Q&A on Agency Updates

6-GSA, General Services Administration, *Ken Sandler*
GSA request: GSA would like to hear from other agencies potentially interested in partnering on a proposed study on chemicals in building products (see section 6.4 of these minutes for details).

7-EPA, Environmental Protection Agency
7.1-Workplan and Alternative Assessments on Flame Retardants
Emma Lavoie (Design for the Environment (DfE) program)
7.2-Radon, Asthma, Science, Indoor airPLUS (IAP), Schools, Cookstoves
David Rowson (Director, Indoor Environments Division (IED))
Q&A on Agency Updates

Presentations

(1) ***Facility Indoor Air Quality Assessment,***
by John Sherwood, NASA, Kennedy Space Center (FL). The approach developed by NASA, includes an IAQ scoring and assessment tool that should be of interest to federal facility managers.
There are two attachments co-located with John's presentation and the minutes on the CIAQ website. (KSC JSherwood KNPR 1840.19.pdf, and KSC JSherwood EVH-F-IQ70a.pdf)

Presentation (1) Q&A

(2) ***Impacts of Source Control and Ventilation on Formaldehyde in New Homes***,
by Brett Singer, DOE, Lawrence Berkeley Lab (LBL). The research examines the relationship between ventilation, emission rates, sources, and air concentrations of formaldehyde.
Presentation (2) Q&A

Presentation Notes:

(a) Listen to these presentations here: 2-5-14 CIAQ Webinar Audio.mp3 **(right click to open the hyperlink)**; these recordings will be available for a limited time.
(b) Presentations are available on the CIAQ website as PDF for a limited time; after that by request via email to CIAQ@epagov.
3:26 Conclude the Webinar/meeting

~ M I N U T E S ~

Welcome, introductions and announcements, *Phil Jalbert, CIAQ Executive Secretary*

Claire Barnett gave a brief update and led a short discussion on the *Healthy Purchasing for Healthy Schools Guide*. For the technical Q&A, Claire was joined by green procurement consultant Alicia Culver, the Executive Director, Responsible Purchasing Network; Oakland, CA. Claire based her remarks on HSN's *Back to School* webcast (August 2013) on the Coalition for Healthier Schools release of the *Healthy Purchasing for Healthy Schools* policy guide see:
http://www.healthyschools.org/documents/CHS_HealthyPurchasingwebcast_August2013.pdf
POC: Claire Barnett (Founder/Exec. Dir., Healthy Schools Network) (healthyschools@aol.com)

Healthy Purchasing for Healthy Schools
A Policy Guidance Memo
Green Cleaning + Five More Product Categories to Help Make Schools Healthier

Goals: Reduce contaminants in indoor air through purchasing; safer products with externally verified claims; common to school purchasing; available at same/similar cost. Guidance built on successes in states and districts with green cleaning policy reforms.

-- Green cleaning supplies and safer disinfectants
-- Office equipment (computers)
-- Interior paints
-- Office and art supplies (markers, notebooks)

-- Furniture (desks, partitions)
Using EPAs IAQTfS kit and adopting green cleaning and related green purchasing, one district in TX reduced inhaler use and generated $2m in attendance reimbursements.
http://healthyschools.org/documents/CHS_healthypurchasinghealthyschools.pdf

The King County Art Hazards Project provides free direct and indirect technical and regulatory assistance to school art programs and artists in King County, Washington. The project helps artists and art teachers better understand the health and environmental hazards of the products they work with. The project also work to devise ways for reducing those risks, e.g., by avoiding hazardous products, using safer substitutes, installing local exhaust ventilation systems and wearing personal protective equipment.

This is all done through trainings and workshops focused on multiple art disciplines, and through studio and classroom consultations; www.hazwastehelp.org/artchemicalhazards will get you to the main page. The Art Chemical Hazards Video Series is located at this YouTube page and will be continually expanding this year. POC: Dave Waddell (206-263-3069, dave.waddell@kingcounty.gov)
Q&A

Agency IEQ-IAQ Updates

1-NIST, National Institute of Standards and Technology
1.1-NIST Netzero House. Instrumentation of the NIST Net-Zero Energy Residential Test Facility was completed last summer, with a year of monitoring in progress to verify that it indeed operates at net zero energy over one year. The house is a two-story with four bedrooms and incorporates energy-efficient construction, space conditioning systems and appliances, as well as solar water heating and solar photovoltaics to meet the house's energy needs.

In the area of IAQ, the house has a heat recovery ventilator sized to comply with ASHRAE Standard 62.2 and an extremely tight envelope, and was built with low-emitting building materials. Measurements of indoor VOC and aldehyde concentrations started last summer and will continue through the summer of 2014 to verify that the material specifications meet the intended goals. Radon levels have been measured four times and are below the EPA action level of 4 pCi/L. Also, thermal comfort conditions are monitored continuously in the house to confirm that the heating and cooling systems are maintaining comfortable conditions. For more information, see http://www.youtube.com/watch?v=xSzu83fyQaQ.
POC: Andy Persily, 301-975-6418, andyp@nist.gov.

1.2-Measurement of Ultrafine Particles or Incidental Nanoparticles: NIST is continuing experiments to measure ultrafine particles, as small as 2 nm, generated by common residential activities such as cooking and appliance use as well as studies of various control technologies including filtration and local exhaust. These experiments are being conducted in NIST's three bedroom test house through the semi-continuous measurement of environmental conditions, building air change rates and particle concentrations. The most recent work has focused on the ability of air cleaners using electrostatic precipitator technology to remove particles in the size range of about 10 nm or less, as well as the generation of ozone from these devices and ozone removal with charcoal impregnated filters. The results of that work were recently published in

Environmental Science and Technology, with the online version available at http://pubs.acs.org/doi/pdf/10.1021/es404884p. Contact: Dustin Poppendieck, 301-975-8423, dustin.popendieck@nist.gov.

1.3-Improving the Reliability of Product Emissions Testing: Reference material development work to support the validation of product emissions testing has been focusing the production of toluene reference materials. Significant progress has been made on achieving uniformity of production and stable packaging approaches. Modeled emissions from a toluene referent material have also been experimentally validated using micro-chambers. Work is also continuing on reference materials for formaldehyde emissions. Contact: Dustin Poppendieck, 301-975-8423, dustin.popendieck@nist.gov.

1.4-CONTAM IAQ Model: NIST has developed a next generation simulation tool for modeling energy, ventilation and indoor air quality (IAQ) in high performance buildings. The tool combines the multizone airflow and IAQ analysis capability of EL's CONTAM program with the building energy modeling capability of the TRNSYS simulation program. NIST and TESS, Inc. previously collaborated to create a combined multizone thermal and airflow building simulation by coupling limited aspects of the airflow portion of the airflow modeling component of CONTAM with the TRNSYS energy simulation program. CONTAM is a multizone airflow and contaminant dispersal program with a graphical interface for data input and display.

TRNSYS is a transient system simulation program with a modular structure that was designed to solve complex energy system problems by breaking the problem down into a series of smaller components. While the initial coupled TRNSYS/CONTAM tool has been used successfully, it did not include a full integration of the capabilities of the two tools. The recently released, second generation coupled simulation tool greatly expands the functionality by adding multizone contaminant simulation and access to all of CONTAM's airflow modeling components, including the ability to simulate air handling systems and ducted airflow networks. The new simulation capability is enabled in the latest version 3.1 of CONTAM, which is available for download from NIST at http://www.bfrl.nist.gov/IAQanalysis/software/.

1.5-ASHRAE: Standard 62.2 and IAQ 2013: The next meeting of the committee responsible for Standard 62.2 on residential ventilation and IAQ will be held June 27th and 28th in Seattle, where several proposed changes to the standard will be discussed. One significant recent development are scope change proposals to Standards 62.2 and 62.1, which would move most residential dwelling units out of the scope of Standard 62.1 and into the scope of Standard 62.2. Currently, multifamily residential buildings of three stories or more are in the scope of Standard 62.1.
Contact: Steven Emmerich, 301 975-6459, steven.emmerich@nist.gov.

The ASHRAE IAQ 2013 conference with the theme Environmental Health in Low-Energy Buildings was held in Vancouver in October (minus the participation of federal employees who could not travel). The IAQ 2013 program included over 80 papers on IAQ, thermal comfort, source control, air cleaning, ventilation, exposure and related environmental health concerns associated with low energy building design, construction, retrofit and operation; four plenaries and one workshop. For more information, **contact:** Steven Emmerich: 301 975-6459, steven.emmerich@nist.gov.

1.6-ASHRAE Standard 189.1: Ongoing efforts to update and revise ASHRAE/USGBC/IES SSPC 189.1, Standard for High-Performance Green Buildings except Low-Rise Residential Buildings, are continuing. A supplement to the 2011 standard was published on the ASHRAE website in the spring of 2013, reflecting all of the approved change since 2011, and can be downloaded at: https://www.ashrae.org/standards-research--technology/standards-addenda. In the area of indoor environmental quality, the following addenda have recently been approved for publication: m, which adds lighting quality to the scope of the IEQ section and adds associated requirements; and r, which addresses ventilation in healthcare facilities.

Other IEQ-related addenda that have been submitted for public review or are expected to be soon: ae, VOC content of paints and coatings; , ao, sealing of HVAC system filters; be, requiring venting of all combustion devices; bn, requiring pre-occupancy ventilation; and bx and by, both of which address moisture control. Future addenda are expected to address acoustics and other issues. The standard will be republished later this year, incorporating whichever addenda have been approved at that point. More information on committee activities can be found on the ASHRAE website. You can sign up for notifications of public reviews and other information via the ASHRAE 189.1 listserv at https://www.ashrae.org/resources--publications/free-resources/listservs. **Contact:** Andy Persily, 301-975-6418, andyp@nist.gov.

1.7-ASTM: D22.05 Subcommittee on Indoor Air: ASTM D22.05 Subcommittee on Indoor Air met last October in Jacksonville and will meet again in April in Toronto. Current subcommittee work items include the following: assessing the uncertainty of product emissions chamber measurements; VOC emissions from spray polyurethane foam; exposure scenarios for residential buildings; calibration, quality control and auditing of thermal desorption/GCMS analysis related to emissions from materials; and, guidance on interpreting indoor carbon dioxide generation rates. More information regarding these efforts, as well as existing ASTM IAQ standards can be found at www.astm.org/COMMIT/SUBCOMMIT/D2205.htm.

2-NIOSH, National Institute of Occupational Safety and Health

2.1-NIOSH Dampness and Mold Assessment Tool: The NIOSH Dampness and Mold Assessment Tool is comprised of a hard-copy observational assessment form and a software application. The assessment tool provides a system for completing thorough visual assessments for areas of dampness, water damage, and mold in schools or other office buildings, and aids facility-related personnel in identifying and tracking potential problem areas.
The assessment tool has been implemented in a large US school district that has conducted assessments on PC-based tablets, and is integrating the software into a new data management system for the district. Further beta-testing for the assessment tool software will be conducted in the upcoming months in selected schools in New England area. Once beta-testing of the software is completed and final modifications will have been made, the assessment tool will be submitted for publication and made available for download on the NIOSH IEQ website. An "app" for Andriod and iPhones is also being developed.

2.2-Online Health Questionnaire Survey Tool: A proposal for the development of an online health questionnaire was funded by the NIOSH Public Health Practice Program through FY15. The online health questionnaire has been developed and will be administered to 50 schools selected from a large

school district in spring of this year. In addition, an environmental survey in a subset of the schools will be conducted and will include dampness/mold assessments using the NIOSH Dampness and Mold Assessment Tool and collecting floor dust samples. Using the health questionnaire together with the Dampness and Mold Assessment Tool will enable school districts to collect and analyze both health and environmental data in order to support needs of renovation, maintenance, and efficient investment of resources to prevent illnesses in occupants. The project received Institutional Review Board (IRB) approval, and an Office of Management and Budget (OMB) package has been submitted for clearance.

2.3-Analysis method: mycotoxins in floor dust samples: A proposal for the development of a method for simultaneous analysis of multiple mycotoxins has been funded by the National Institute of Environmental Health and Safety (NIEHS) through FY14. The project is to develop a cost-effective method using a state-of-the art technology, ultra-performance liquid chromatography-tandem mass spectrometry (called UPLC-MSMS), for simultaneously analyzing multiple fungal toxins in environmental samples.

The UPLC-MSMS technology does not require significant sample preparation; thus, the technology enables us to develop rapid and robust methods to screen multiple mycotoxins in samples. The current method under development is able to screen 17 mycotoxins in a single analysis which are frequently found in water-damaged environments. The developed method will be applied to quantify the 17 fungal toxins in floor dust samples that will be collected from the funded school study in 2014, and that had already been collected from water-damaged buildings, which we have existing data for on other fungal and bacterial components, as well as occupants' health. The project provides us with an opportunity to examine potential roles of exposure to fungal toxins on occupants' health in water-damaged buildings.

3-CPSC, Consumer Product Safety Commission
POC: Joanna Matheson (301.987.2564, jmatheson@cpsc.gov)

3.1-Nano material studies: Interagency activities with NIOSH continue including evaluation of nano silver in consumer products. Additional interagency projects evaluating the presence and potential release of nanomaterials from consumer products are also continuing, including work at NIST quantifying nanomaterial release from various matrices in the indoor environment, distinguishing engineered nanoparticles from those produced incidentally. Dr. Tinh Nguyen and Andy Persily are working on the NIST studies (POC Treye Thomas, 301.987.2560, tthomas@cpsc.gov).

3.2-Portable generator safety: CPSC staff is in the process of developing a draft notice of proposed rulemaking for the Commission's consideration to reduce the risk of death and injury due to carbon monoxide (CO) poisoning caused by portable generators. In addition, on 1.14.2014 staff sent a letter to Underwriters Laboratories Inc. (UL) with staff's recommendations for requirements that could be used by a working group as a starting point for developing specific proposals for requirements in the voluntary standard UL 2201, *Portable Engine-Generator* Assemblies. The letter also requested that UL form the working group. The letter is available on CPSC's website at (http://www.cpsc.gov//Global/Regulations-Laws-and-Standards/Voluntary-Standards/Portable-Generators/CPSCstaffllettertoULdatedJan142014.pdf) (POC Janet Buyer, 301.987.2293, jbuyer@cpsc.gov).

3.3-Spray Polyurethane Foam (SPF) activities: EPA established a multi-agency work group to address several issues relating to SPF emissions. The agencies have received a number of a number of complaints regarding health effects including severe respiratory irritation, breathing difficulties, dizziness and nausea, resulting from the installation of SPF in homes. The work group has been working with industry on addressing issues such as the availability of consistent and accurate hazard communication on diisocyanates and other chemicals in the SPF insulation products; implementation of best practices that protect spray applicators, others in the work site, and occupants of residences, schools and other buildings; accurate marketing claims, and outlining of data gaps.

There are work items (ASTM WK30960, WK40293, WK40292) under the ASTM Air Quality/Indoor Air (D22.05) subcommittee to standardize test methods for spraying, sampling, and packaging SPF insulation products and to measure emissions from these products. An ASTM standard (ASTM D7859 - 13e1) was recently accepted under this work item. CPSC contracted with Versar, Inc to produce a toxicological profile of select amine catalysts commonly found in SPF (**http://www.cpsc.gov/PageFiles/129845/amine.pdf**). Information from this report suggests that amine emissions may be the cause of these long term health effects. An interagency agreement was signed with NIST to conduct chamber testing of SPF samples. The study will characterize and quantify releases of amines, isocyanates and other compounds (POCs Treye Thomas, 301.987.2560, tthomas@cpsc.gov; Melanie Biggs, 301-987-2593, mbiggs@cpsc.gov).

3.4-NSF/UL 440 – Health-based VOC Emissions Standard (Voluntary) for Building Products and Interior Furnishings: CPSC staff has been providing technical assistance on a monthly basis to both the Toxicology and Environments/Products task groups. These groups have recently presented draft proposal language to the group as a whole. After voting, some of these proposals were approved to be balloted by the Joint Committee. The toxicology task group is currently redrafting proposal language for the Joint Committee to ballot at this future date. The proposals cover chemical VOCs and toxicology endpoints, modeling scenarios and associated parameters, and other topics of interest. (POC Kent Carlson, 301.987.2578, kcarlson@cpsc.gov).

3.5-Drywall Projects: CPSC has received over 4,046 reports from residents in 44 states, the District of Columbia, American Samoa and Puerto Rico. The majority of the reports remain from consumers residing in the states of Alabama, Florida, Louisiana, Mississippi and Virginia. The Drywall Safety Act of 2012, H.R. 4212, http://www.govtrack.us/congress/bills/112/hr4212/text, was signed into law on 1.14.2013. The work continues at ASTM (under ASTM C11) on a proposed standard regarding sulfur emissions from drywall. All drywall reports and studies are found at the first tab "Interagency Drywall Investigation" on the CPSC drywall webpage: http://www.cpsc.gov/en/Safety-Education/Safety-Education-Centers/Drywall/ (POC Joanna Matheson, 301.987.2564).

4-HUD, Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control

4.1 Healthy Homes Technical Studies (HHTS) FY 2013 Grant Awards

Twelve HHTS grants were awarded in September, 2013 for a total of approximately $10.5 million. The following are brief descriptions of the studies that were funded:

4.1.1-Project Title: Improving the Respiratory Health of Alaska Native People through Home- Based Interventions

Alaska Native Tribal Health Consortium will be awarded $743,044 in 2013 Healthy Homes Technical Studies funds to build and expand upon a pilot project funded by the Commission for Environmental Cooperation, undertaken in 2011-2012, to improve indoor air quality through the implementation of low-cost household remediation in four southwestern Alaska Native villages. The Consortium's Division of Environmental Health and Engineering, in collaboration with regional health care providers, will select four more villages reporting a high incidence of childhood respiratory disease for the continued testing of low-cost home-based interventions to decrease air pollutant levels in thirty new residences over a two-year period. Measures of air quality include fine particulates, volatile organic compounds, carbon monoxide, carbon dioxide, and relative humidity. In addition to air quality measures, the project will develop educational materials and provide home-based education to teach and reinforce practices known to reduce indoor air pollutants. **Contact:** Mr. Troy Ritter, 907-729-5683, tlritter@anthc.org

4.1.2-Project Title: Indoor Air Quality Interventions for Individuals with COPD: Measuring the Impact on Objective Lung Function, Quality of Life, Symptoms, and Health Care Utilization
American Lung Association of the Upper Midwest will be awarded $690,558 in 2013 Healthy Homes Technical Studies funds to examine the impact of targeted interventions to remediate home indoor air quality (IAQ) threats to residents with chronic obstructive pulmonary disease (COPD) in four tribal communities (Pine Ridge, Cheyenne River, Standing Rock, and Mille Lacs Reservations). Objectives of the study include: (1) to measure the impact that IAQ interventions in tribal homes have on COPD symptoms; (2) to measure the correlation between IAQ hazards and symptom severity; (3) to improve understanding of the impact of IAQ hazards on people with COPD; (4) to determine the impact of mold remediation on secondary fungal infections; (5) to determine the feasibility of bringing IAQ intervention services to limited income, geographically isolated tribal populations; (6) to measure the impact of IAQ interventions on the health care utilization of individuals with COPD; and (7) to measure the additional impact of the IAQ interventions on children and other household members with respiratory illness.
Contact: Jill Heins Nesvold, Director of Respiratory Health, 651-223-9578, jill.heins@LungMN.org

Board of Regents, NSHE, obo University of Nevada, Las Vegas will be awarded $650,000 in 2013 Healthy Homes Technical Studies funds to address important gaps in healthy homes literature by evaluating the efficiency, and costs, associated with mitigating housing hazards through the use of a landlord-tenant hotline. To address significant health and housing disparities, the CCLTHS has outlined specific, measurable program objectives to be accomplished over the 36-month grant production period, which include: 1) Analyze existing (and new) landlord-tenant hotline data to improve knowledge about the specific types of housing hazards present in renter-occupied units (ROUs); 2) Evaluate the effectiveness of the land-lord tenant hotline as a means to improve housing-related hazards in ROUs; and 3) Conduct a cost benefit analysis that compares the costs of operating the hotline to the cost of property remediation to ROUs.
Contact: Shawn Gerstenberger, PhD, Professor, 702-895-1565, shawn.gerstenberger@unlv.edu

4.1.3-Project Title: Building Assessment of Radon/Moisture Reduction w/ Energy Retrofits (The BARRIER Study)

The Board of Trustees of the University of Illinois (with its partner, the National Center for Healthy Housing) will be awarded $747,566 in 2013 Healthy Homes Technical Studies funds to assess the potential benefits of a low-cost "enhanced sealing" intervention when conducted in conjunction with home weatherization to improve energy efficiency in low income housing. This study will determine if the enhanced weatherization protocol will reduce radon levels in different housing types in two climate zones in areas with high radon levels, as well as quantifying any benefit in improved moisture control. A total of 160 houses will be randomly assigned to intervention and control groups in each of the two geographic regions. Eligible homes will be those with baseline radon levels of at least 1.5 pCi/L. **Contact:** Linda Learned, Interim Director, OSPRA, 217-333-2187, gcoaward@uillinois.edu

4.1.4-Project Title: Residential Air Quality and Chronic Obstructive Pulmonary Disease (COPD)

Case Western Reserve University will be awarded $749,952 in 2013 Healthy Homes Technical Studies funds to develop an in-depth pilot study that proposes to enroll elderly COPD patients cared for at the Louis Stokes Cleveland Department of Veterans' Affairs Medical Center. There will be continuous air quality measurements and at least daily respiratory health measurements in their homes over a two-year period. Following recruitment of these non-smoking COPD patients who have no significant co-morbidities, their homes will have an initial evaluation employing both HUD's Healthy Home Rating System and the moisture- and mold-focused Visual Assessment Tool to specifically assess potential sources of air quality concerns in their homes. **Contact:** Holly Lipkovich, Director, Office of Grants and Contracts, 216-368-4432, medres@case.edu.

4.1.5-Project Title: Kansas City Home Environmental Assessment Research Taskforce (KCHEART)

The Children's Mercy Hospital will be awarded $748,727 in 2013 Healthy Homes Technical Studies funds to develop an exposure probability model through a series of data collection and analysis tasks that evaluates the relationship between housing hazards and health. KC-HEART seeks to validate this model through a combination of health data analysis and community-based home environmental health assessments. They will also perform 100 home assessments in the homes of children with no reported chronic health problems to serve as controls for the approximately 300 homes in the Kansas City Metro region that received extensive interventions through two HUD-funded Healthy Homes programs that were completed in this community. Through this effort, KC-HEART will attempt to provide significant advancement in knowledge about the relationship between basic housing conditions and the health of occupants as well as new knowledge about the relationship between outdoor and indoor environmental characteristics of homes and the methods and data collected to assess these hazards**. Contact:** Candice Foster, Grants Specialist, 816-701-1343, cafoster@cmh.edu.

4.1.6-Project Title: CARE MORE: Interventions for Cockroach Allergen Reduction and Elimination of Micro-Organisms from the Home Environment

North Carolina State University will be awarded $735,264 in 2013 Healthy Homes Technical

Studies funds to quantify the association of microorganisms (bacteria and fungi) with cockroach and bed bug droppings and highlight the multiplicity of clinical significance of these household pests. The primary objective of this study is to eliminate significant obstacles to the implementation of Integrated Pest Management (IPM) and evaluate the impact of two IPM-based interventions in reducing1) the numbers of cockroaches and bed bugs; 2) allergen levels (i.e., cockroach, dust mite, mold); and, 3) microorganisms and microbial metabolites in the home. If successful, the interventions would be expected to reduce asthma morbidity in inner-city and other at-risk populations. **Contact:** John Chaffee, Associate Director of Research Administration, 919-515-2444, sps@ncsu.edu.

4.1.7-Project Title: Implementation and Evaluation of a Model Bed Bug Management Program in Low-Income Housing

Rutgers, The State University of New Jersey will be awarded $342,905 in 2013 Healthy Homes Technical Studies funds to design and implement a model bed bug integrated pest management (IPM) program for low income communities that focus on the quality of the pest control contractor's service and participation of the housing staff in monitoring and evaluation. A comparative analysis of the results from this IPM program with those of existing IPM strategies will be performed in an effort to create practical, widely applicable and accepted protocols that will reduce bed bug management costs and improve the health and well-being of residents through effective eradication of bed bugs. **Contact:** Changlu Wang, PhD, Assistant Professor, 848-932-9552, cwang@aesop.rutgers.edu.

4.1.8-Project Title: Cost-Effective Detection of Multi-Family Housing-Related Health and Safety Hazards

Rutgers, The State University of New Jersey will be awarded $687,000 in 2013 Healthy Homes Technical Studies funds to test and refine cost-effective methods for detecting health and safety hazards in affordable housing by using laser and infrared imaging equipment capable of detecting structural deficiencies, moisture, mold, breaches in insulation, insect harborages and vermin tracks at very detailed levels and, by leveraging building information models created from laser scan data, to gain systems level understanding of patterns of health and safety hazards. This work will be conducted at two and possibly three multi-family housing sites. It is the goal that this research will lead to improved knowledge about the occurrence and patterns of health related building deficiencies and enhanced resident quality of life for occupants of HUD-assisted and other forms of lower-income housing.
Contact: Monika Incze, Contract/Grant Specialist, 848-932-4013, inczem@grants.rutgers.edu

4.1.9-Project Title: Helping Chicago's Westside Adults Breathe and Thrive: A Healthy Homes Approach to Improving Respiratory Health

Sinai Health System will be awarded $749,931 in 2013 Healthy Homes Technical Studies funds to address asthma disparities employing a multi-pronged approach to improve asthma by educating adults to better manage asthma medically and reduce the presence of asthma triggers in the home. The approach will address asthma at three levels: (1) individual; (2) environmental; and, (3) community. The project will incorporate rigorous scientific methods to document the process and success of the initiative

in meeting its goals, and will use a community-based approach engaging stakeholders and community members to inform these methods and to help ensure a lasting change in the lives of the families and communities the program impacts. The intervention integrates an intense environmental assessment, modeled after previous asthma interventions and a current HUD-funded program. Community health workers will make 5-6 home visits over a 12-month period, during which time they will educate participants on asthma and its proper management, assist adults with poorly-controlled asthma to improve asthma management and reduce the presence and effects of home asthma triggers. Expected outcomes for adults are improvement in asthma control, reduction of daytime and nighttime symptom frequency and a reduction in asthma-related health resource utilization. A cost-benefit and cost-effectiveness analysis is also planned. **Contact:** Claude H. Hall, Jr., Director, Grants & Strategy, 773-257-2749, claude.hall@sinai.org

4.1.10-Project Title: Fungal Exposure, Allergic Sensitization and Asthma among Middle-Income Children in New York City (NYC)

The Trustees of Columbia University in the City of New York will be awarded $722,378 in 2013 Healthy Homes Technical Studies funds to identify the major fungal taxa across selected homes in NYC and develop a unique panel to quantify NYC-specific fungal burden and test for associations with allergic-sensitization and asthma. The researchers will determine whether or not the individual species and concentrations of domestic dust borne fungi vary across NYC middle-income housing by neighborhood and housing type. They will also determine whether, among 7-8 year olds, higher levels of domestic fungi are associated with allergic sensitization at age 7-8 and with asthma persistence at ages 10-11**. Contact**: Rosa Rivera, Director, 212-305-0350, grants-office@columbia.edu.

4.1.11-Project Title: Integrated Pest Management for the Control of Multiple Cockroach Species

Tulane University will be awarded $748,610 in 2013 Healthy Homes Technical Studies funds to develop a new integrated pest management (IPM) approach that incorporates strategies targeting American cockroaches along with the German cockroaches that current IPM strategies primarily target. American cockroaches are a major source of asthma-inducing allergens found in homes throughout humid regions world-wide, but there is a large gap in the current understanding of this species because research in the U.S. has focused on geographic areas where American cockroaches do not thrive. Using the classic field ecology techniques of life history tables and mark-release-recapture studies, combined with the innovative statistical techniques of pathway analysis, the most promising strategies in the IPM arsenal will be identified. This project will culminate in a controlled field trial employing these promising techniques to assess the impact on reducing cockroach allergen levels in homes.
Contact: Felicia Rabito, PhD, Associate Professor, 504-988-3479, rabito@tulane.edu

4.1.12-Project Title: A Cost Benefit Study of Green & Healthy Homes Interventions in Baltimore, Maryland

University of Maryland, Baltimore County (with their partner the Coalition to End Childhood

Lead Poisoning) will be awarded $749,856 in 2013 Healthy Homes Technical Studies funds to address three primary research objectives: (1) Determine the extent to which green and healthy housing (GHHI) interventions reduce asthma morbidity and costs measured directly as health care utilization and other costs among low- income Baltimore residents; (2) Assess the extent to which GHHI interventions reduce non-medical costs related to school absences, utility usage, and work-loss days for parents or caregivers of children with asthma; and (3) Evaluate how varying intensity levels of GHHI interventions impact post-intervention resident health and overall cost savings.
Contact: Karen Barnes, Grants and Contracts Manager, 410-455-1374, kbarnes@UMBC.edu

4.1.13-Project Title: Healthy Homes for Elders: Multi-Trigger, Multi-Component Environmental Interventions for Asthma

University of Massachusetts, Lowell will be awarded $749,999 in 2013 Healthy Homes Technical Studies funds to evaluate the hypothesis that multi-trigger, multicomponent healthy homes interventions improve the respiratory health and reduce home asthma triggers for the elderly. The researchers will enroll 90 elders with asthma or chronic obstructive pulmonary disease who reside in low-income, multi-ethnic public housing. Data will be collected on respiratory health outcomes before and after healthy homes intervention and exhaled nitric oxide (a measure of lung inflammation) will be measured. Home environmental assessments will also be conducted, including evaluation of asthma trigger-inducing activities and exposures before and after healthy homes intervention. **Contact:** Linda Concino, Director, Grants and Contracts Administration, 978-934-4723, Linda_Concino@uml.edu.

4.1.14-Project Title: Filter Forensics: A Novel Method for Exploring Asthma Triggers for Children in Low-income Rural Homes

The University of Texas at Austin will be awarded $683,805 in 2013 Healthy Homes Technical Studies funds to conduct research to better understand the environmental and socioeconomic factors that affect both the development and severity of asthma in children with the utilization of an alternative contaminant sampling method. The proposed research will examine the merits of using heating, ventilation and air conditioning (HVAC) filters as passive, integrated samplers of indoor airborne contaminants in homes to evaluate the relationship between environmental contaminant concentrations (asthma triggers) in HVAC filter dust and asthma severity and quality of life factors for asthmatic children. The study will focus on investigating the home environment of a particularly vulnerable population – rural and primarily low income, school age children diagnosed with asthma in central Texas. To provide a basis for comparison, contaminant levels in homes of children without asthma from the same study population will also be evaluated. **Contact:** Barbara Reyes, Senior Contracts and Grants Specialist, 512-471-6289, barbarareyes@austin.utexas.edu
HUD contacts: Peter J. Ashley; Peter.J.Ashley@hud.gov or Kofi Berko; J.Kofi.Berko@hud.gov

4.2 Development of Smoke-Free Housing Guidance
HUD's Office of Healthy Homes and Lead Hazard Control is working with HUD's Office of Public and Indian Housing and Office of Multifamily Housing to produce a new guidance document promoting

smoke-free housing policies for subsidized and market-rate housing providers. This document will be user-friendly and will highlight best practices for designing, implementing and enforcing smoke-free policies in multifamily housing. The user will hear from voices representing a variety of housing provider types and representatives from different groups developing and affected by such policies. The manual will be released in fall, 2014. **HUD Contact**: Rachel Riley; Rachel.M.Riley@hud.gov

4.3 Integrated Pest Management Training and Technical Assistance
HUD's Office of Healthy Homes and Lead Hazard Control is sponsoring the continuation of its IPM training and technical assistance project through an interagency agreement with USDA NIFA. The goal is to provide technical assistance and training to at least 70 housing providers (including public housing and privately owned, federally assisted multi-family housing) in the implementation of IPM programs. Emphasis is also being placed on improving the quality of services that housing providers receive from pest management professionals, investigating various options for individual and company certification in IPM, and improving standard contract language for IPM services used by affordable housing providers. **HUD Contact:** Rachel Riley; Rachel.M.Riley@hud.gov

4.4 The 2014 National Healthy Homes Conference
The **2014 National Healthy Homes Conference,** a collaboration of efforts by the U.S. Department of Housing and Urban Development, Rebuilding Together, HGTV and DIY Network, will be held in Nashville, TN from May 28th – 30th, 2014. The conference is the nation's leading interdisciplinary event bringing together health, housing and other professionals dedicated to improving the lives and homes of America's families and communities. The Conference will include over 130 sessions in six tracks, over 50,000 sq. ft. of exhibit space, and features a one-of-a-kind community rebuild event that puts words into action, the Building a Healthy Neighborhood project, hosted by Rebuilding Together. **HUD Contacts**: Eric Hornbuckle; Eric.W.Hornbuckle@hud.gov or Michelle Miller; Michelle.M.Miller@hud.gov

5-DOE, Department of Energy [POC: Chris Early (chris.early@ee.doe.gov, 202-5896-0514)]
5.1-DOE Weatherization Assistance Program: POC: Jennifer Somers: jennifer.somers@ee.doe.gov, Josh Olsen: joshua.olsen@ee.doe.gov, Shawn Green: shawn.green@go.doe.gov
The WAP Standard Work Specifications for Home Energy Upgrades for Single-family, Multifamily and Manufactured housing are aligned with and reference the EPA's Healthy Indoor Environment Protocols. (sws.nrel.gov)

The WAP has supported the development of 4 new professional certifications for Home Energy Professionals which all require workers to be knowledgeable in IAQ issues.
The WAP has fully integrated ASHRAE 62.2 into its program requirements along with training modules to support workers in implementing the standard.
The National Evaluation report "Weatherization and Indoor Air Quality Measured impacts in single-family homes under the Weatherization Assistance Program" is complete. Release date is not scheduled.

5.2-Healthy Efficient Homes Program: POC: Brett Singer, bcsinger@lbl.gov
The Healthy Efficient Homes program is a multi-agency supported effort to conduct the research needed to support improvements in both the energy and health performance of the US housing stock. It is

directly supported by DOE's Building America Program, EPA's Indoor Environments Division, and HUD's Office of Healthy Homes and Lead Hazard Control. Synergistic project support is provided by the California Energy Commission. The research is conducted by Lawrence Berkeley Laboratory working with various partners and collaborators.

A major focus of the program over the past few years has been to develop the tools for setting health-based ventilation standards. The work has helped to establish the finding that fine particles from both indoor and outdoor sources appear to cause the most health damage among air pollutants inhaled in homes. Research has been focusing on the use of source control, smart ventilation, and filtration to efficiently provide outdoor air to reduce the IAQ impacts of indoor sources while not increasing indoor levels of hazardous outdoor particles.

In late 2013, Environmental Health Perspectives published online an LBNL simulation study (Logue et al.) showing that cooking with gas burners but without regular use of a venting range hood commonly leads to indoor concentrations of NO2 and even CO that exceed outdoor air quality standards. Through 2013, LBNL sought input from other researchers and a wide range of industry stakeholders to identify the developments that are needed for the US to effectively address kitchen contaminants in high performance homes.

They recently completed a report (Stratton and Singer) that outlines their vision for high priority improvements to public and industry awareness, best practice guidance, technology and standards developments and other market transformation advances. The report should be available very soon on LBNL's publications web site (eetd.lbl.gov/publications). LBNL has used the attention generated by the relatively impressive headline finding of the EHP paper as a lever for discussions about the need for regulations requiring kitchen exhaust ventilation and for improved products and more frequent use.

5.3-DOE support for ASHRAE 62.2: POC: Iain Walker (vice-chair) iswalker@lbl.gov (510 486 4692)
ASHRAE 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, is the national ventilation standard of design for all homes and up to threestory multifamily buildings. DOE supports ASHRAE 62.2 through LBNL (vice-chair) and direct participation of DOE staff as voting member of the committee. 62.2-2013 has been adopted by RESNET 301 – Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using the HERS index, BPI 1100-T201 Home Energy Auditing Standard, and ACCA 12 Home Evaluation and Performance Improvement.

LBNL participated for DOE on all these standards to achieve industry uniformity for easier compliance. DOE (via LBNL) supported the creation of a special version of 62.2-2013 was created by the committee for use in California in Title 24. Current efforts for standards revisions are being supported by DOE through work at LBNL: revising source control for Range Hoods (currently waiting for ASTM capture efficiency standard), adding a filtration requirement (this is part of moving towards a more health-based approach in the standard), improving diagnostics and measurement techniques for compliance testing and allowing for real-time control of ventilation, rewriting the standard to be a step-by-step procedure to compliance for easier training, implementation and compliance verification.

More generally, 62.2 and 62.1 are working on scope changes such that 62.2 would apply to all residences (including the residential part of high-rise buildings and 62.1 would cover all other spaces) and what to do about unvented combustion devices. This change should happen over the next 12 months. Next meeting is in Seattle in June 2014.

There are several other ventilation related DOE efforts at LBNL (for more info contact Iain Walker (vice-chair) iswalker@lbl.gov (510 486 4692)). LBNL has developed a real-time smart ventilation control (called RIVEC) that both time-shifts ventilation and accounts for operation of other mechanical systems to provide the same IAQ while reducing energy use for ventilation by 40%. LBNL is close to its first licensing agreement for the RIVEC system.

5.4-Recent Reports by DOE (and others) related to IAQ:
Indoor environmental quality benefits of apartment energy retrofits Noris, Federico, Gary Adamkiewicz, William W. Delp, Toshifumi Hotchi, Marion L. Russell, Brett C. Singer, Michael Spears, Kimberly Vermeer, and William J. Fisk, LBNL. June 2013. DOE and CEC.
http://buildings.lbl.gov/sites/all/files/indoor_environmental_quality_benefits.pdf

Predicting Backdrafting and Spillage for Natural-Draft Gas Combustion Appliances: Validating VENT-II 04/2013 Rapp, Vi H., Albert Pastor-Perez, Brett C. Singer, and Craig P. Wray, LBNL. CEC and DOE.
http://buildings.lbl.gov/publications/predicting-backdrafting-and-spillage-
Impacts of Contaminan t Storage on Indoor Air Quality: Model Development. Max H. Sherman and Erin L. Hult, LBNL. January 2013. DOE and CEC. http://buildings.lbl.gov/sites/all/files/lbnl-6114e.pdf

Measurement of Passive Uptake Rates for Volatile Organic Compounds on Commercial Thermal Desorption Tubes and the Effect of Ozone on Sampling. Authors: RL Maddalena, A Parra, ML Russell, WY Lee. May, 2013. DOE and National Science Foundation. http://eetd.lbl.gov/sites/all/files/lbnl-6257e-measurement_of_passive_uptake_rates.pdf

Flexible Residential Test Facility: Impact of Infiltration and Ventilation on Measured Cooling Season Energy and Moisture Levels BA-PIRC/Florida Solar Energy Center Danny S. Parker, Jamie E. Cummings, Robin K. Vieira, Philip W. Fairey III, John S. Sherwin, Charles Withers Jr., and David Hoak. November 2013.
http://fsec.ucf.edu/en/publications/pdf/NREL-60118.pdf

Ventilation System Effectiveness and Distribution: Draft Technical Report. Armin Rudd and Daniel Bergey, Building Science Corporation. March 2013.
http://www.buildingscience.com/documents/bareports/ba-1309-ventilation-system-effectiveness-and-indoor-air-quality-impacts

Combustion Safety for Appliances Using Indoor Air L. Brand,
Partnership for Advanced Residential Retrofit, Gas Technology Institute. August 2013

Optimization of Ventilation Energy Demands and Indoor Air Quality in Airtight ZEBRAlliance Homes Diana E. Hun, Som S. Shrestha, Mark C. Jackson, ORNL. July 2013.

Performance Evaluation of Real Time Formaldehyde Monitors: PTR-MS and Interscan 4160-500B Portable Monitor Authors: Meera Sidheswaran, Sebastian Cohn, Douglas Sullivan, Lara Gundel. http://eetd.lbl.gov/sites/all/files/lbnl-6357e.pdf

Investigation of Formaldehyde and Acetaldehyde Sampling Rate and Ozone Interference for Passive Deployment of Waters Sep-Pak XPoSure Samplers. Nasim A. Mullen, Marion L. Russell, Melissa M. Lunden, Brett C. Singer, LBNL. HUD, EPA, CEC, and DOE.
http://btus.lbl.gov/sites/all/files/investigation_of_formaldehyde.pdf

F*ormaldehyde exposure mitigation in US residences: In-home measurements of ventilation control and source control.* LBNL. Erin L. Hult, Henry Willem, Phillip N. Price, Toshifumi Hotchi, Marion L. Russell, Brett C. Singer.

6- GSA, General Services Administration, Office of Federal High Performance Green Buildings

6.1-Energy Independence and Security Act (EISA). EISA §492(b) directs GSA to "develop and carry out a comprehensive indoor air quality program for all Federal facilities to ensure the safety of Federal workers and facility occupants" for both new and existing buildings." IEQ and health are also key components of the definition of "high-performance green buildings" around which the mission of GSA's Office of Federal High-Performance Green Buildings (OFHPGB) revolves. OFHPGB is now ramping up its work in this area.

6.2-IEQ and Health Workshops:
6.2.1-In June 2013, GSA/OFHPGB convened a workshop of IEQ and health experts to identify evidence-based strategies to reduce health risks and enhance the health and well-being of federal building occupants. The panel concluded that there is sufficient existing building-related health evidence to act on today, without waiting for more research. It recommended best practices ranging from improved air filtration and increased ventilation rates to more access to daylight and views.

6.2.2-OFHPGB is now planning a second workshop with Federal facilities practitioners, and those who provide that audience with training and outreach, to determine how the IEQ expert findings discussed above can be incorporated in Federal buildings standard procedures most effectively. (POC: Ken Sandler, ken.sandler@gsa.gov, 202-219-1121).

6.3-Demonstration projects
6.3.1-OFHPGB conducts demonstration projects at Federal green buildings every year studying building performance and approaches to improving it. This year's demonstration project looks at several of GSA's most ambitious green building projects under the Recovery Act -- Federal Center South in Seattle, the Wayne Aspinall Federal Building in Grand Junction, CO and Edith Green-Wendell Wyatt Federal

Building in Portland. This project includes research on the health impacts of daylight exposure and its impacts on circadian rhythms, which regulate the sleeping and waking cycles.

6.3.2-OFHPGB is scoping out a potential project that would examine stress impacts of working in buildings under different conditions, following previous research at the Denver Federal Center that found differences in heart rate variability and salivary cortisol levels before and after a workplace upgrade. (POC: Dr. Judith Heerwagen, judith.heerwagen@gsa.gov)

6.4-Proposed study on chemicals in building products. One area where guidance remains unsettled regards chemical constituents in building products. OFHPGB is scoping out a potential National Research Council scientific panel to determine what, if any, risks to occupant health and well-being are presented by classes of chemicals in building products, and what, if any, policy approaches may be needed in response. GSA would like to hear from other agencies potentially interested in partnering on this work. (POC: Ken Sandler, ken.sandler@gsa.gov, 202-219-1121)

7-EPA-Environmental Protection Agency

7.1-DfE, Design for the Environment Program

POC : Dr. Emma Lavoie (lavoie.emma@epa.gov; 202 564-0951), Office of Pollution Prevention and Toxics

OPPT Workplan activities on flame retardants:

http://www.epa.gov/oppt/existingchemicals/pubs/workplans.html
http://www.epa.gov/oppt/existingchemicals/pubs/2013wpractivities.html

OPPT/DfE Alternatives Assessments on flame retardants:

Alternatives Assessments AA: http://www.epa.gov/dfe/alternative_assessments.html
Decabromodiphenyl ether AA: http://www.epa.gov/dfe/pubs/projects/decaBDE/about.htm
Hexabromocyclododecane AA: http://www.epa.gov/dfe/pubs/projects/hbcd/about.htm
Flame retardants in flexible polyurethane foam AA:
http://www.epa.gov/dfe/pubs/projects/flameret/about.htm
Tetrabromobisphenol-A AA: http://www.epa.gov/dfe/pubs/projects/pcb/index.htm

7.2-IED, Indoor Environments Division (POC: David Rowson, Director (202-343-9411)

7.2.1. Radon

(a) We are very pleased to report some significant progress, both cumulatively and recently. These results are something we think we should ALL be proud of – our federal partners, state programs, local IAQ and health departments, NGOs, and the private sector. The radon program's cumulative estimated results through calendar 2012:

(a) an estimated 11,000+ lives saved
(b) about 1.1 million homes mitigated (the 85,000 homes fixed in 2012 was the highest)
(c) about 2 million homes have been built with radon-reducing features

(b) At EPA, in particular we're proud of the things we helped get over the finish line this past year:

(b.1.) We just had a great National Radon Action Month. There were some good media stories that got out, including on the issue of radon in schools and radon in real estate. We had a great radon poster contest with over 4,500 entries this year!

(b.2.) There are radon stakeholder meetings happening in most EPA Regions now. Most involve states and industry. Some are beginning to rival the national meeting in size.

(b.3.) Four consensus standards are out now for public comment: (1) MF mitigation; (2) School/large buildings measurement; (3) School/large building mitigation; and (4) device performance. EPA's investment in these standards will help fill critical technical gaps.

(b.5.) The Federal Radon Action Plan has been the single greatest commitment by federal agencies to take radon seriously. It's no longer EPA carrying the burden alone. Over half of the FRAP commitments have been completed.

(b.6.) We've taken a new direction on the Action Plan and are going beyond the federal government. With the help of the American Lung Association, we launched an effort this fall to engage key non-governmental and private sector organizations. Our hope is that we will develop a national action plan – something we really need to have if we want to make meaningful progress in addressing the thousands of radon-induced lung cancer deaths each year. A few additional points to make about the Federal Radon Action Plan:

(b.7.) We salute the leadership role of HUD and CDC/HHS. HUD's new radon rule requires testing and mitigation in their multifamily housing program. It is expected to result in approximately 100K or more units being tested each year. HUD's healthy homes program is advocating for the spread of this kind of requirement to other HUD programs. This action by HUD has CHANGED THE GAME on radon, has begun to invigorate the US radon industry, and is an example of what Gina McCarthy asked her counterparts to do: Get Serious about Radon, and Do The Right Thing.

(d.8.) FRAP. Our focus in the next few months is to get all 'yellows' to 'green' on the FRAP scorecard.

(e) The Action Plan seems to be having a positive effect on the radon industry. For example, informally, at the national radon meeting, we heard many industry members indicate their testing and mitigation activity was significantly higher than two years ago. In addition, the industry association, AARST, has developed several new credentials for their members, including on that covers vapor intrusion work. That helps industry members offer new services and enter new markets.

(d.9.) State Indoor Radon Grants (SIRG) program: Although SIRG was not included in the President's proposed budget he submitted to Congress, EPA state radon grants were included in the Agency's FY13 Operating Plan. All was distributed to states of the $7.6 million allocated to EPA Regional offices. In FY14, Congress rejected the Administration budget proposal to zero out state radon grants. We've confirmed that there will be about $8M in funding this year, and have recently distributed those funds to the Regional offices.

7.2.2-Asthma

1. Awards Program

(a) Leadership Award in Asthma Management: EPA's National Environmental Leadership Award in Asthma Management is the highest recognition an asthma management program can receive. All health plans, health care providers and communities in action with comprehensive asthma management programs that have an environmental component are encouraged to apply. Winners will be announced in May during Asthma Awareness Month. Applications are currently being accepted until February 10, 2014 at http://www.asthmaawards.info.

(b) AsthmaCommunityNetwork.org Tools and Resources

1.2.1. Upcoming Webinar: There are several upcoming resources on AsthmaCommunityNetwork.org including a new webinar co-hosted by EPA and the Merck Childhood Asthma Network, Inc. Mark your calendar for February 13th for our webinar "Effective Strategies for Obtaining Reimbursement" featuring Centers for Medicare and Medicaid Services and Kim Harris-Tierney, Asthma Program Manager, Multnomah County Oregon's Environmental Health Services sharing their expertise on reimbursement opportunities.

1.2.2. Podcast: Keep an eye out for the next podcast in our "Conversations for Advancing Action" series. Episode 8 will feature Dr. Stephen Cha, Chief Medical Officer, Centers for Medicare and Medicaid Services, offering insight into opportunities under Medicaid to more readily integrate public health and preventions resources and approaches to asthma care targeting disproportionately impacted populations. The podcast will be available at: http://www.asthmacommunitynetwork.org/podcasts.

1.2.3. Value Proposition: Visit AsthmaCommunityNetwork.org and check out the redesigned Value Proposition webpage. This webpage is a resource and tool for pilot projects and well-established programs alike to communicate the unique value and benefits of their program to funders. Value propositions demonstrate the health outcomes a program creates and the economic savings of a program. The Value Proposition site takes members through each component of a value proposition, providing resources and examples in order to help create a powerful story about their programs.

1.2.4. Asthma Awareness Month: As we prepare for Asthma Awareness Month in May, visit AsthmaCommunityNetwork.org to find a wealth of resources like the Event Planning Kit to plan and promote your events. Also, be sure to post your planned events on the Network's Events Calendar. Stay tuned for more upcoming opportunities in May!

7.2.3-Science

1. New Moisture Control Guidance Now Available from EPA's IED!

Moisture Control Guidance for Building Design, Construction and Maintenance. This guide provides the practical information and detailed guidance needed to ensure that buildings are designed, constructed, operated and maintained to keep moisture in check. The guide was developed for professionals who design buildings and produce drawings, specifications and contracts for construction or renovation, who erect buildings from the construction documents, and who operate, repair and maintain buildings.

This guidance document was released mid-January on IED's website and featured at the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2014 Winter Conference, Jan. 18-22, 2014, New York City, New York. A hard launch will follow later in the year with additional activities to include presentations at national conferences and courses for professionals based on the guidance.

Resource for Hurricane Sandy and other recovery efforts: This major guidance document is part of EPA's contribution to the Hurricane Sandy recovery effort and will be valuable as a resource for rebuilding efforts following flood or other moisture events. There is a handout on the document on the side table. The website will be in the meeting notes.

7.2.4-Indoor airPLUS

(a) The 2nd revision to the Indoor airPLUS Construction Specifications was released to partners in November 2013. Revision 2 provides additional refinements to the specifications to encourage broader builder participation in the program.

(b) The program continues to gain momentum, with 50 new builders joining the program since release of Revision 2 two months ago.

(c) The last 4 quarters saw an almost 100% increase in homes labeled Indoor airPLUS though the total numbers are still a small fraction of the market.

(d) The program is making the most of diminishing resources by strengthening collaboration with the ENERGY STAR Certified Homes program as well as DOE's Challenge Home program.

7.2.5-Healthy School Indoor Environments

(a.) Webinar: Results of School Health Policies and Practices Study: IED will be co-hosting an upcoming webinar with Center for Disease Control and Prevention's (CDC's) Division of Adolescent and School Health on the results of the 2012 School Health Policies and Practices Study (SHPPS) on Thursday, February 27th. Register today at https://www2.gotomeeting.com/register/361152842

Please attend the webinar. There you will hear about the survey findings that show school districts across the country continue to make great progress in implementing indoor air quality (IAQ) management programs and other critical initiatives, such as school bus idling reduction programs, green design policies, radon, integrated pest management and mold and moisture response procedures. Speakers include Sherry Everett Jones, CDC and Brenda Doroski, EPA.

(b.) Webinar: Creating Health Indoor Environments in Tribal Communities: In collaboration with ORIA regional tribal staff, IED hosted a webinar titled "Creating Healthy Indoor Environments in Tribal Communities: Best Practices from Tribal Programs" on December 9, 2013. Nearly 100 participants learned effective strategies for working with tribal communities to establish and sustain health indoor environments in school facilities, and resources for achieving long-term success for IAQ management.

Brenda Doroski demonstrated how EPA's IAQ Tools for Schools guidance can play a pivotal role in helping schools establish IAQ programs, reduce asthma triggers and enhance energy audits. Johna Boulafentis, Environmental Outreach Specialist of the Air Quality Program for the Nez Perce Tribe of Idaho, and Scott Weir, Air Quality Coordinator at the Kickapoo Environmental Office in Kansas, discussed their indoor air quality management work. These two leading Tribal Air Quality Coordinators shared with viewers the importance of ongoing education, training, and communication in starting, expanding, and maintaining successful IAQ management efforts. You can view the presentation at http://www.epa.gov/iaq/schools/webconferences.html.

7.2.6-International Cookstoves

(a) Cookstove Standards: Next week in Nairobi, Kenya, more than 100 delegates from 18 countries will gather for an International Organization for Standards (ISO) meeting to develop voluntary standards for cookstoves. EPA staff will lead the US delegation of 13 delegates from government (a DOE representative is participating), academia, NGO and stove manufacturers. This ISO initiative will build on the ISO International Workshop Agreement (IWA) that EPA staff – while leading the Partnership for Clean Indoor Air - chaired in February 2012.

EPA has been promoting the increased use of demonstrably clean cookstoves for 10 years through its leadership of the Partnership for Clean Indoor Air and now in support of the Global Alliance for Clean Cookstoves. We expect that developing globally recognized standards that are widely accepted by the stove community and adopted by country governments will spur wider deployment of clean cookstoves in a number of ways, including: defining what is an "improved cookstove" for users, stove makers, and policy makers; and enabling the rating of stoves by efficiency, safety, durability, affordability, and cleanliness, while allowing for differences in local conditions and user behavior.

(b) Global Alliance for Clean Cookstoves Collaboration: EPA is working closely with the Global Alliance for Clean Cookstoves to achieve the mission of 100 million homes utilizing demonstrably improved cooking and heating technology in 2020. Last year we helped fund and organize the 6th Biennial Cookstoves Forum in Cambodia that included more than 500 participants from 60 countries; supported the expansion of Regional Stove Testing and Knowledge Centers (RTKCs) to 13 RTKCs around the world, and organized and facilitated the first RTKC training at the EPA cookstove lab at ORD; and are integrally involved in the Alliance's monitoring and evaluation activities including the annual results reporting. The great news is that Alliance Partners reported disseminating 8.2 million stoves in 2012, improving the health and livelihood of more than 40 million people around the world.

Presentations

(1) ***Facility Indoor Air Quality Assessment***

by John Sherwood, NASA, Kennedy Space Center (FL)

The approach developed by NASA, includes an IAQ scoring and assessment tool that should be of interest to federal facility managers (

Presentation Q&A

(2) ***Impacts of Source Control and Ventilation on Formaldehyde in New Homes***,
by Brett Singer, DOE, Lawrence Berkeley Lab (LBL)
The research examines the relationship between ventilation, emission rates, sources, and air concentrations of formaldehyde.

Presentation Q&A

Presentation Notes:

(a) Listen to these presentations here: 2-5-14 CIAQ Webinar Audio.mp3 **(right click to open the hyperlink)**; these recordings will be available for a limited time.

(b) Presentations are available on the CIAQ website as PDF for a limited time; after that by request via email to CIAQ@epagov.

(c) If you want to present an IAQ or IEQ related topic to the Committee, please submit your presentation proposal to CIAQ@epa.gov.

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